AMSAT Weekly Satellite Report
Issue: WSR-359
Date: 2005-12-25
Sources: amsat-ans-2005-wsr-359.txt

This report is organized into 4 parts.
Part 1 - operational analog amateur satellites.
Part 2 - operational digital amateur satellites.
Part 3 - non - operational satellites
Part 4 - proposed satellites

SB SAT @ AMSAT <KB9MMC $ANS-359.S1
WSR 359 Part 1 12/25/2005

AMSAT NEWS SERVICE BULLETIN 359.S1 FROM AMSAT HQ
SILVER SPRING, MD, December 25, 2005
TO ALL RADIO AMATEURS
BID: $ANS-359.S1

VO-52 HAMSAT
Catalog Number: 28650
Launch Date: May 05,2005

Status: Testing
Current Mode: U/V - Dutch Transponder

Proposed frequencies:

Indian Transponder:
Uplink : 435.220 MHz to 435.280 MHz LSB/CW
Downlink: 145.870 MHz to 145.930 MHz USB/CW
Beacom : 145.859330 MHZ CW

Dutch Transponder:
Uplink : 435.225MHz to 435.275MHz LSB/CW
Downlink: 145.875MHz to 145.925MHz USB/CW
Beacon : 145.860MHz 12WPM with CW message

This from William Leijenaar, PE1RAH:
Dear AMSATs,

I wish I had the same free time now as when I designed the HAMSAT and P3e transponder. Unfortunatly these times have been changed (for the moment) due to QRL things.

However, I often try to be QRV on the HAMSAT and check the signals from my transponder and read the messages on amsat-bb. I just read about the beacon "problem". The "problem" with the beacon is actually not a problem but it is known. The beacon signal is injected at the IF, and runs throught the transponder from the IF section, up converter, via the final PA to the antenna.

The changes you hear on the beacon frequency is caused by the amplitude limiters in the IF that are activated by a too strong uplink signal. These limiters are only for protection, to avoid that the IF and VHF amplifiers get overloaded and generate all kinds of unwanted signals at the output.

My transponder is straight forward to keep it physical small and cheap in cost (as I had no sponsors). Unlike most other transponders my transponder on HAM-SAT has no AGC system. It gives always maximum gain with maximum sensitivity.

The main reason is that the AGC systems I had didn't fit in the small sized

box. As an option I choose for limiters, and it worked great in tests.

Secondly, I tought limiters might be helpfull against aligators. To deal with too strong signals most transponder have an AGC to lower the RX gain, and actually be helpfull to the alligators. With the limiters their SSB signal will get distorted and they might lower their powers to have better audio quality.

The change in beacon sound is an indication for too much uplink powers and will be heared mainly in areas where higher powers are available on the up-link, like US, Europe, Japan...

Its funny to know that nobody here has discovered that the bandpass is shifted some down in frequency... There is no technical failure, the reason is known here... No panic please :o)

Please keep in mind that this transponder is my privat work and privat money. Frankly speaking this is my privat transponder I "give" to the amateur world. I was one of those many poor students, and this was the best I could do with my resources I had available at that time... The whole thing is just 16cm x 10cm x 3cm !! even smaller than the professional Indian transponder :o)

I hope you all enjoy my transponder even when it is not perfect.
[11272005]
=====
AO-51 ECHO
Catalog number: 28375
Launch date: June 29, 2004

Status: Testing
Curent Mode: PBBS - V/U 9k6
      VOICE REPEATER - V/U FM

Analog voice downlink: 435.300 MHz FM
              435.150 MHz FM
Analog voice uplink: 145.880 MHZ FM
              145.920 MHz FM 67Hz PL tone
                       1268.700 MHz FM 67Hz PL tone

Digital Downlinks: 435.150 MHz FM, 38k4 Digital, PBP, 1 watt output
                       2401.200 MHz FM 38k4 bps, AX.25
Digital Uplink: 145.860 MHz FM, 9k6 Digital, Pacsat Broadcast
          Protocol (PBP)

Broadcast: PECHO-11
BBS: PECHO-12

This from the AO-51 Command team:

The Digipeater function on AO-51 has been turned on for a "Trial Test Session". The test may be paused at any time. Please keep your digi packets down to a reasonable level as this is a shared resource. Only one uplink is in use, so the PBBS users and digi users are going to be on the same uplink frequency. This is a shared uplink and downlink with the PBBS, so do not overload it with continuous, or high duty rate, beacons or broadcasts.

This is not the 10 watt plus transmitter that is on the ISS. It will take a higher gain receiving station to hear the 9k6 signal of AO-51. You will not need a strong signal for the uplink though, as AO-51 hears very well. Note that the uplink and downlink are both at 9600 baud.

Downlink: 435.300 FM 9600 baud

Uplink: 145.860 FM 9600 baud
Digi Callsign: PACB-1

If you are using TlmEcho there is a bug in the program regarding the Digipeat Status display. That has been fixed in the new version, and a number of new features added as well. A new version of TlmEcho is expected to be released soon.

For the time being, if you monitor the 9k6 downlink you can use the LSTAT status message to verify that the digipeater is turned on. If the message contains "d:1", then the digi function is enabled. If it contains "d:0" the digi is turned off.

Mike, KE4AZN, added, "I want to personally thank Jeff, KB2M, and Gould, WA4SXM, for their help in testing the digipeat function."

[ANS thanks Mike, KE4AZN for the above information]

January 2006 Amsat Kid's Day on AO-51

Amsat-NA, the AO-51 Command Team, and the AO-51 Operations Team will sponsor Kid's Day on AO-51 on January 8, 2006. The event will run from approximately 0100 UTC 8 January until 0345 UTC 9 January. The event is open to all kids, worldwide. We ask all amateur radio stations to give this short time window to promote satellite operations with kids, by actually showing a kid how to make contacts via AO-51, providing a station to contact, or stepping aside to allow others to make contacts with the kids. During the event, please limit contacts to stations that are operating with kids at the microphone. This should allow the kids to have a nice QSO and pass some information. Kids can tell their name, age, who is helping them operate on AO-51, where they live, and other information about themselves.

AO-51 will be configured in the following mode during the event. Please note the change in the uplink frequency for the event. The PL tone will be turned off for the event.

Uplink: 145.880 mhz FM voice
Downlink: 435.300 mhz FM voice

The digital transponder on 435.150 will be turned off during the event.

See http://www.arrl.org/FandES/ead/kd-rules.html on the ARRL website for more Kids Day information.

Have fun and enjoy AO-51!

73 KE4AZN
Amsat VP-Operations
Echo Command Station

[ANS-WSR thanks Mike Kingery, KE4AZN for the above information]
[12252005]
=====
SO-50 SAUDISAT-1C
Catalog number: 27607
Launched: December 20, 2002

Status: Operational.

Uplink: 145.850 MHz (67.0 Hz PL tone) (See below for operating

```
          procedures)
Downlink:  436.795 MHz

There have been unconfirmed reports on the amsat-bb remailer that SO-50 has
shifted downlink frequency as much as 5khz up. This both from Europe.

To switch the transmitter on, you need to send a CTCSS tone of  74.4 Hz. The
order of operation is thus: (allow for Doppler as necessary)

1) Transmit on 145.850 MHz with a tone of 74.4 Hz to arm the 10 minute timer
   on board the spacecraft.
2) Now transmit on 145.850 MHz (FM Voice) using 67.0 Hz to PT the repeater
   on and off within the 10 Minute window.
3) Sending the 74.4 tone again within the 10 minute window will reset the 10
   minute timer.
[09122004]
=====
FO-29 JAS-2
Catalog number: 24278
Launch Date: August 17, 1996

Status: OPERATIONAL

Voice/CW Mode JA
Uplink:     145.90 to 146.00 MHz CW/LSB
Downlink:   435.80 to 435.90 MHz CW/USB
Beacon:     435.795 MHz

Digital Mode JD
Uplink:     145.850 145.870 145.910 MHz FM
Downlink:   435.910 MHz 1200-baud BPSK or 9600-baud FSK
Callsign:   8J1JCS
Digitalker: 435.910 MHz

John, N4QWL reports on July 16th, 2005:
Last evening I had a AOS to LOS qso with WI2W. FO-29 came up at 01:17z here
in FM07 and I found WI2W and we chatted until 01:33z. The satellite was at 2
degrees elevation when I finally heard him start to crackle a bit. What a
great QSO! To think that I watched this bird launch back in 1996 and it is
still working so well is a real thrill. I believe I still have the video. I
might just look for it and watch it again. Boy do I love this satellite
stuff! Look for you all up there.

Please send the reception reports to lab2 'at' jarl.or.jp.
Please use the subject line: 'FO-29 reception report'.

Mineo, JE9PEL, has an FO-29 satellite telemetry analysis program that will
automatically analyze all digital telemetry from the satellite (such as
current, voltage and temperature). FO29CWTE is available at:
http://www.ne.jp/asahi/hamradio/je9pel/
[ANS-WSR wishes to thanks John, N4QWL for this week's report]
[11132005]
=====
AO-27 AMRAD
Catalog number: 22825
Launched: September 26, 1993

Status: Operational

Uplink:     145.850 MHz FM
Downlink:   436.795 MHz FM

The latest information on AO-27 from control operator Michael Wyrick, N3UC
(former N4USI), can be found at:
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http://www.ao27.org

An AO-27 question-and-answer page is available on the AMSAT-NA web site,
with updates by Ray, W2RS. The URL is:
http://www.amsat.org/amsat/intro/ao27faq.html

[ANS-WSR thanks John, K6YK, for this week's AO-27 report]
[11132005]
=====
AO-7 AMSAT OSCAR 7
Catalog number: 07530
Launch Date: November 15, 1974

Status: Semi-operational in sunlight.
Return to active status: June 21,2002

Uplink: 145.850 to 145.950 MHz CW/USB Mode A
            432.125 to 432.175 MHz CW/LSB Mode B
Downlink: 29.400 to 29.500 MHz CW/USB Mode A
            145.975 to 145.925 MHz CW/USB Mode B
Beacon: 29.502 MHz, 145.972 MHz, 435.1 MHz, 2304.1 MHz

Emily, W0EEC has created a website to allow the users of AO-7 to record
contacts, observations and use of the satellite more effectively at:
http://www.emilyshouse.com/experthams/ao7/main.php
This includes the ability to log contacts.

Tim, K3TZ has written a program to decode AO-07 telemetry. The program can
be downloaded at:
http://www.qsl.net/k3tz/files/K3TZ_AO-07_Telemetry_Decoder_0.5.zip

For more AO-7 info:
http://www.amsat.org/amsat/sats/n7hpr/ao7.html
[11132005]
=====
INTERNATIONAL SPACE STATION (ISS) - ARISS
Catalog number: 25544
Launch date: November 20, 1998

Status: Operational
Current Mode: DIGIPEATER
Digipeater: ACTIVE

The current Expedition 12 crew is:
Commander: William McArthur - KC5ACR
Flight Engineer: Valery Tokarev - (no call)

Worldwide packet uplink: 145.990 MHz FM
Region 1 voice uplink: 145.200 MHz FM
Region 2/3 voice uplink: 144.490 MHz FM
Worldwide downlink: 145.800 MHz FM

Repeater Uplink: 437.800 MHz FM
Repeater Downlink: 145.800 MHz FM
Doppler Shift is 10 KHz

Russian callsigns: RS0ISS, RZ3DZR
USA callsign: NA1SS
Packet station mailbox callsign: RS0ISS-11
Packet station keyboard callsign: RS0ISS-3
Digipeater callsign: ARISS

The ARRL Reports;

ISS commander shooting for WAC, WAS and maybe DXCC from space

ISS Expedition 12 Commander Bill McArthur, KC5ACR, has proven to be one of the more active Amateur Radio on the International Space Station (ARISS) operators among ham radio operators who have occupied the space station. In fact, McArthur's having so much fun operating from space that he's hoping to complete Worked All Continents (WAC), Worked All States (WAS) and maybe even DXCC from space.

"Bill McArthur continues to be active on voice and now has a couple of personal goals he is trying to achieve," says ARISS Ham Radio Project Engineer Kenneth Ransom, N5VHO. "He is trying to talk to someone in every state in the United States. According to his log, he has managed to work 37 states so far." In addition, Ransom says, McArthur wants to work as many countries as he can.

"He's off to a good start with 28 DXCC entities in his log as of December 12," he said. "These contacts have been with amateur stations on every continent with the exception of Antarctica." That contact could happen this weekend, however. Although the IARU does not require WAC applicants to have worked Antarctica, Ransom says that ARISS tradition calls for an Antarctica QSO to achieve WAC from space "since the astronauts seem to have an unfair advantage."

Expedition 9 astronaut Mike Fincke, KE5AIT, became the first ISS crew member to contact all seven of the world's continents via Amateur Radio from NA1SS.

States on McArthur's most-needed list are Alaska, Hawaii, Idaho, Missouri, New Hampshire, New Mexico, North Dakota, Pennsylvania, Rhode Island, South Dakota, Vermont, Virginia and Washington.

"The list of DXCC entities is just starting to grow, so he needs a lot right now," Ransom conceded this week, adding that he hasn't included ARISS school group contacts in his counts and hopes McArthur will achieve his goals without them. "We won't know the official results for months after the mission," he added.

McArthur is about halfway through his approximately six-month duty tour aboard the ISS. He and crewmate Valery Tokarev will return to Earth in April.

During Thanksgiving week, McArthur reportedly made some three dozen casual contacts, most of them over North America and a few over Europe and New Zealand. He made contacts with stations in the US on December 6. He also had QSOs with Australia, New Zealand and the US on December 11.

[WSR Thanks the ARRL for the above information]

The ISS Fan Club Webpage < http://www.issfanclub.com > reports that the Digipeater is active as of Nov 14th, 2005 at 0207UTC.

The ISS daily crew schedule can be found at:
http://spaceflight.nasa.gov/station/timelines/
Remember that the crew operates on UTC time. Also, all of the time line is NOT translated from Russian and posted.

More information is available at:
http://www.rac.ca/ariss
http://spaceflight.nasa.gov/station/reference/radio/
http://www.marexmg.org/fileshtml/unprotopage.html

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http://www.issfanclub.com
http://oscar.dcarr.org/
[11132005]
NNNN
/EX

SB SAT @ AMSAT <KB9MMC $ANS-359.S2
WSR 359 Part 2 12/25/2005

AMSAT NEWS SERVICE BULLETIN 359.S2 FROM AMSAT HQ
SILVER SPRING, MD, December 25, 2005
TO ALL RADIO AMATEURS
BID: $ANS-359.S2

PCSAT2 ?0-??
Catalog Number: 25544
Launch Date: August 1, 2005

Status: Battery-saving mode
Current Mode: None

Digital Downlink: 435.275 Mhz
Digital Uplink: 145.825 Mhz
PSK-31 Downlink: 435.275 Mhz
PSK-31 Uplink: 29.400 - 29.403 Mhz

Broadcast:
BBS:

PCSAT2 was installed on the exterior of the International Space Station and
was activated on August 3, 2005.

Packets seen from PCSAT2 can be reviewed at:
http://www.findu.com/cgi-bin/pcsat2.cgi

A screen shot of both the 9600 bps and 1200 bps decoded data as seen by
Simon, 9W2QC, can be seen at:
http://www.9w2qc.net/pcsat2/

More information on PCSAT2 can be found at:
http://web.usna.navy.mil/~bruninga/pcsat2.html
[11272005}
=====
AO-51 ECHO
Catalog number: 28375
Launch date: June 29, 2004

Status: Testing
Curent Mode: PBBS - V/U 9k6
      VOICE REPEATER - V/U FM

Analog voice downlink:  435.300 MHz FM
              435.150 MHz FM
Analog voice uplink: 145.880 MHZ FM
              145.920 MHz FM 67Hz PL tone
                       1268.700 MHz FM 67Hz PL tone

Digital Downlinks:      435.150 MHz FM, 38k4 Digital, PBP, 1 watt output
                        2401.200 MHz FM  38k4 bps, AX.25
Digital Uplink:         145.860 MHz FM, 9k6 Digital, Pacsat Broadcast
          Protocol (PBP)

Broadcast: PECHO-11
BBS:  PECHO-12
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This from the AO-51 Command team:

The Digipeater function on AO-51 has been turned on for a "Trial Test Session". The test may be paused at any time. Please keep your digi packets down to a reasonable level as this is a shared resource. Only one uplink is in use, so the PBBS users and digi users are going to be on the same uplink frequency. This is a shared uplink and downlink with the PBBS, so do not overload it with continuous, or high duty rate, beacons or broadcasts.

This is not the 10 watt plus transmitter that is on the ISS. It will take a higher gain receiving station to hear the 9k6 signal of AO-51. You will not need a strong signal for the uplink though, as AO-51 hears very well. Note that the uplink and downlink are both at 9600 baud.

Downlink: 435.300 FM 9600 baud
Uplink: 145.860 FM 9600 baud
Digi Callsign: PACB-1

If you are using TlmEcho there is a bug in the program regarding the Digipeat Status display. That has been fixed in the new version, and a number of new features added as well. A new version of TlmEcho is expected to be released soon.

For the time being, if you monitor the 9k6 downlink you can use the LSTAT status message to verify that the digipeater is turned on. If the message contains "d:1", then the digi function is enabled. If it contains "d:0" the digi is turned off.

Mike, KE4AZN, added, "I want to personally thank Jeff, KB2M, and Gould, WA4SXM, for their help in testing the digipeat function."

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AO-51 will be configured in the following mode during the event. Please note the change in the uplink frequency for the event. The PL tone will be turned off for the event.

Uplink: 145.880 mhz FM voice
Downlink: 435.300 mhz FM voice

The digital transponder on 435.150 will be turned off during the event.

See http://www.arrl.org/FandES/ead/kd-rules.html on the ARRL website for more Kids Day information.

Have fun and enjoy AO-51!

73 KE4AZN
Amsat VP-Operations
Echo Command Station

[ANS-WSR thanks Mike Kingery, KE4AZN for the above information]
[12252005]
=====
NO-44 PCSAT
Catalog number: 26931
Launch Date: September 30, 2001

Status: Operational

General Usage Uplink/Downlink:145.827 MHz 1200 Baud
Special Usage Downlink: 144.390 Mhz 1200 Baud

Bob WB4APR reports:

The PCSAT-1 digipeater on 145.825 was still going strong and
working well up until December 15.

The activity page http://pcsat.aprs.org shows about 75
stations accessed PSCAT-1 between December 13 and 14. This
won't last much longer since PCSAT-1 is now back to 30 minute
eclipses headed towards worst-case of 35 minutes during the
week of December 18-25.

Sometime before 2202z on the 15th PCSAT-1 suffered a reset to
W3ADO-1 and lost its low power settings. Now at 1740z on the
17th, the US Naval Academy Satellite Lab sent the restore
commands, but with 33 minute eclipses, it is doubtfull they
will hold. We may have lost her until March, 2006.

The command station at the US Naval Academy should be able to
keep PCSAT-1 alive indefinately as long as stations do not user
her in the dark and the command stations never let her 68 hour
command watch-dog timer time out.

Anyone can work PCSAT-1 with ANY typical 1200 baud packet
station on 145.825. Just set your path to UNPROTO APRS via
ARISS (the same that you use via ARISS on the ISS or via PCSAT2).
Mobiles with the D700 or the TH-D7 HT APRS radios will see packets
directly on their front panel and can work it from their mobile.

[ANS-WSR thanks Bob Bruninga, WB4APR and the US Naval Academy
Satellite Lab for the above information]

PCSat is a 1200-baud APRS digipeater designed for use by stations using
hand-held or mobile transceivers. Downlinks feed a central web site at:
http://pcsat.aprs.org

The APRS-equipped PCSat was built by midshipmen from the U.S. Naval Academy
under the guidance of Bob Bruninga, WB4APR.
[12182005]
=====
CUTE-1
Catalog number: 27844
Launched: June 30,2003

Status: Operational

Uplink: ?

Downlink: 436.8375 CW
437.4700 1200 FM ax25 or SRLL (ACTIVE only near Japan ?)
Cliff, K7RR reports:
In the latest Weekly Satellite Report, CUTE 1, #27844 is listed as
OPERATIONAL?
Indeed it is very operational as a CUBESAT sending CW telemetry on
436.8345 MHz. At the July 7 2005, 23:45:20 pass over the Western USA:
CUTE 1 6B A4 xx 7F D7 66A8 4702 FF FF7C 65
CUTE 1 6C A6 59 80 D9 66A8 4702 FF FE7C B6

The June 30th KEPS were within ten seconds of AOS and LOS. It is an very
good object to practice tracking as the orbit and transmitter power are
similar to proposed CUBESATS awaiting launch this December. As a check
for Doppler correction, the lack of change in tone is an excellent
indicator.

CUTE 1 is a Japanese (Tokyo Institute of Technology) one kilogram
nanosatellite that was launched by a Rokot rocket from Plesetsk at
14:15 UT on 30 June 2003. It carries a 100 mW beacon at 436.8375 MHz.
Initial orbital parameters were period 101.4 min, apogee 831 km, perigee
819 km, and inclination 98.7?.

For further info about CUTE-1 goto:
http://lss.mes.titech.ac.jp/ssp/cubesat/operation/Schedule_e.html

[ANS WSR wishes to thank Cliff, K7RR, for this week's information]
[07242005]
=====
GO-32 TECHSAT-1B
Catalog number: 25397
Launch Date: July 10, 1998

Status: Operational

Downlink: 435.225 MHz FM (9600-baud FSK)
(435.325 n/a - temperature problems)
Uplinks: 145.850, 145.890, 145.930 FM
1269.700, 1269.800, 1269.900 FM
Broadcast Callsign: 4XTECH-11
BBS Callsign: 4XTECH-12

Jeff, KB2M, reports November 15th, 2005:
I might be wrong about this, but as I am the only one I see working GO-32
here goes. If you do a DIR request up on the 145.890 uplink the bird turns
on. Give it a try....

More information of GO-32 can be found at:
http://www.iarc.org/techsat/techsat.html
[ANS-WSR wishes to thank Jeff, KB2M for this weeks report.]
[11202005]
=====
AO-16 PACSAT
Catalog number: 20439
Launch Date: January 22, 1990

Status: Semi-operational, the digipeater command is on and open for
APRS users.

Uplink: 145.90 145.92 145.94 145.96 MHz FM
(using 1200-baud Manchester FSK)
Downlink: 437.026 MHz SSB (1200-baud PSK)
Mode-S Beacon: 2401.1428 MHz
Broadcast Callsign: PACSAT-11
BBS: PACSAT-12

A WOD collection of current graphics along with general information
and telemetry samples can be found at:
http://www.telecable.es/personales/ea1bcu
[05092004]
=====
UO-11 OSCAR-11
Catalog number: 14781
Launched: March 1, 1984

Status: Semi-operational?

Telemetry Downlink: 145.826 MHz. FM (1200-baud AFSK).
                    approx. 10 days ON, 10 days OFF
Mode-S Beacon: 2401.500 MHz. ... OFF
UHFBeacon: 435.025 MHz. ... OFF

During the period 21 November to 14 December 2005 the VHF beacon
on 145.826 MHz has been heard from 05 to 10 December.

Signals have been very variable during this period. Sometimes
received at good strength, at other times they were inaudible,
even with the BFO switched ON (ie. in CW mode).

If the watchdog resets as expected, then the beacon should restart
around 31 December. However, more observations are needed to con-
firm the timing of the watchdog timer, and whether it is being reset
prematurely. Therefore, it may be worth listening for the satellite
a few days before 31 December.

The on-board clock continues to show a very large error. On 09 Dec-
ember it was 21.8 days slow.

All the analogue telemetry channels, 0 to 59 are zero, ie they
have failed. The status channels 60 to 67 are still working.

The eclipses have now ended, and the satellite should be in
continuous sunlight for the remainder of this year, and next year
until early May. This should help the satellite to continue trans-
mitting, although continuous sunlight can cause problems due to
excessive temperatures. Power supply problems can be caused by poor
earth pointing attitude, ie the sunlight illuminating the ends of
the satellite, instead of the solar arrays.

The watchdog timer appears to be operating on the 20 day cycle,
ie. approximately ten days ON followed by 10 days OFF. It appears
to be unaffected by problems of the on-board clock. However, poor
solar attitude, and battery problems, may be combining to produce
a low 14 volt line supply. This appears to be causing the beacon
to switch OFF prematurely, and resets the watchdog timer cycle.
It seems very likely that the battery is now unable to retain its
charge, due to having endured around 100,000 partial charge/discharge
cycles, always a problem with NiCad cells. When analogue telemetry
was transmitted, it showed an unexplained current drain from the 14
volt line. This just adds to the present problems.

The Beacon frequencies are -
VHF 145.826 MHz. AFSK FM ASCII Telemetry
UHF 435.025 MHz. OFF
S-band 2401.5 MHz. OFF

Listeners to OSCAR-11 may be interested in visiting my website
which contains an archive of news & telemetry data. It also con-
tains details about using a soundcard or hardware demodulators for

data capture. There is software for capturing data, and decoding
ASCII telemetry. The URL is www.users.zetnet.co.uk/clivew/

More information on UO-11 OSCAR-11 can be found at:
http://www.users.zetnet.co.uk/clivew/

MPEG3 files can be found here at Mineo, JE9PEL website:
http://www.ne.jp/asahi/hamradio/je9pel/uo11tlme.htm
[ANS-WSR thanks Clive G3CWV for the above information]
[12182005]
NNNN
/EX

SB SAT @ AMSAT <KB9MMC $ANS-359.S3
WSR 359 Part 3 12/25/2005

AMSAT NEWS SERVICE BULLETIN 359.S3 FROM AMSAT HQ
SILVER SPRING, MD, December 25, 2005
TO ALL RADIO AMATEURS
BID: $ANS-359.S3

THE FOLLOWING ARE IN ORBIT BUT ARE NON-OPERATIONAL AT THIS TIME:

SSETI ?O-??
Catalog Number: 28894
Launch Date: October 27, 2005

Status: In orbit - being commissioned

A daily report of the launch campaign is being maintained at
http://sseti.gte.tuwien.ac.at/express/mop/index.php?uri=news.html
This mission operations site is completely up-to-date regarding Kepler TLEs
and other LEOP "Launch and Early Operations Phase" details.

The SERACC software, needed to decode and submit the received data to the
SSETI database, together with some audio files containing recorded 9k6
signal to experiment with is also now available

The ESA website about SSETI Express is at:
http://www.esa.int/SPECIALS/sseti_express/SEMARJ7X9DE_0.html

The latest version of the SSETI Express handbook can be downloaded free
of charge from the AMSAT-UK website at:
http://www.uk.amsat.org/

More SSETI Links at:

SpaceDaily has a report about SSETI at:
http://www.spacedaily.com/news/internet-04zzzu.html

You can find more info about SSETI at:
http://sseti.gte.tuwien.ac.at/WSW4/

Latest news about SSETI can be found at:
http://sseti.gte.tuwien.ac.at/WSW4/MOPWS/news.php

Look at the website for the SSETI Express webcam
http://sseti.gte.tuwien.ac.at/WSW4/webcam.htm
[ANS-WSR thanks Graham, UA/G3VZV and Trevor, M5AKA for the above]
[11202005]
======
POSAT-1 PO-28
Catalog Number: 22829
Launched : September 25, 1993

Status: Operational - Not open for Amatuer use

Downlink: 435.250 MHz
435.275 MHz

Uplink: 145.925 MHz
145.975 MHz

Broadcast callsign: POSAT1-11
BBS callsign: POSAT1-12

PO-28 (POSAT-1), Portugal's first satellite, launched 12 years ago,will be turned over to Amateur Radio use in the very near future. That was the word July 30 from AMSAT-UK Secretary Jim Heck, G3WGM, during the AMSAT-UK International Space Colloquium in Guildford, England.

Launched September 25, 1993, the satellite operated as a packet store-and-forward BBS (9600 baud FM FSK) on Amateur Radio frequencies for several weeks in early 1994. Over the years, PO-28's primary usage has been commercial, although plans have called for eventually shifting its operation to ham radio use. G3WGM reports that following lengthy negotiations it has been agreed thatthe satellite can be switched permanently to amateur frequencies. The change over is expected to take a couple of weeks.

The Portuguese satellite was built at the University of Surrey as part of a collaborative satellite technology program that involved industry and academe. Uplink frequencies will be 145.925 and 145.975 MHz. Downlink frequencies will be 435.250 and 435.275 MHz. More information on PO-28 is on the AMSAT Web site

http://www.amsat.org/amsat/sats/n7hpr/po28.html.

Uplink Frequencies: 145.925 and 145.975 MHz
Downlink Frequencies: 435.250 and 435.275 MHz

Orbit: 822 x 800 km, 98.6 deg inclined, sun-synchronous.

Transponder capabilities include FM repeater and 38k4 data. If you want to hear how loud this satellite is, listen on 429.950 until the change back to amateur radio service.

Keplerian elements for PO-28 are currently contained in the AMSAT keps bulletins and at Celestrak in amateur.txt using the name "POSAT". Users of Space Track should query the NORAD Satellite ID number 22829. The name listed by Space Track is "EYESAT A".

More information of POSAT-1 can be found at:
http://www.ee.surrey.ac.uk/SSC/CSER/UOSAT/missions/posat1.html
http://www.amsat.org/amsat/sats/n7hpr/po28.html
[ANS-WSR wishes to thank Duane Naugle, KO6BT, for this week's update.]
[11062005]
=====
AO-10 OSCAR 10
Catalog number: 14129
Launched: June 16, 1983

Status: Non-operational

Uplink: 435.030 to 435.180 MHz CW/LSB
Downlink: 145.975 to 145.825 MHz CW/USB
Beacon: 145.810 MHz (unmodulated carrier)

AO-10 has been locked into a Mode-B, 70-cm uplink and

2-meter downlink for several years.

W4SM has more information about the satellite at the following URL:
http://www.cstone.net/~w4sm/AO-10.html
[05092004]
=====
IO-26 ITAMSAT
Catalog number: 22826
Launch Date: September 26, 1993

Status: Non-operational

Uplink: 145.875 145.900 145.925 145.950 MHz FM (1200-baud)
Downlink: 435.812 MHz SSB
Broadcast Callsign: ITMSAT-11
BBS: ITMSAT-12

Alberto E. Zagni - I2KBD reports on 02/13/05
The spacecraft is in MBL (safe mode) and is trasmitting just 6 channels
of telemetry. Temperatures and voltage are nominal, but there seems to
be a problem with the onboard receiver, refusing to accept commands.
The spacecraft was launched in 1993, thus nearing 12 years in orbit...

Best regards
Alberto E. Zagni - I2KBD
ITAMSAT Mission Director

More information of IO-26 can be found at:

http://joshua.micronet.it/english/itamsat/itamsathome.html
http://www.amsat.org/amsat/sats/n7hpr/io26.html
www.itamsat.org

[02132005]
=====
RS-12 RADIO SPORT RS-12
Catalog number: 21089
Launched: February 5, 1991

Status: Non-operational

Uplink: 21.210 to 21.250 MHz CW/USB
Downlink: 29.410 to 29.450 MHz CW/USB
Beacon: 29.408 MHz
Robot: 29.454 MHz
[05232004]
=====
RS-13 RADIO SPORT RS-13
Catalog number: 21089
Launched: February 5, 1991

Status: Non-operational

Uplink: 21.260 to 21.300 MHz CW/USB
Downlink: 145.860 to 145.900 MHz CW/USB
Beacon: 145.860 MHz
Robot: 145.908 MHz
[05232004]
=====
UO-14 UoSAT-3
Catalog number: 20437
Launched: January 22, 1990

Status: Non-operational

```
Uplink 145.975 MHz FM
Downlink 435.070 MHz FM
[05092004]
=====
UO-22 UOSAT
Catalog number: 21575
Launched: July 17, 1991

Status: Non-Operational

Uplink:             145.900 FM 9600-baud FSK
Downlink:           435.120 MHz FM
Broadcast Callsign: UOSAT5-11
BBS:                UOSAT5-12
[01092005]
=====
RS-15 RADIO SPORT RS-15
Catalog number: 23439
Launch Date: December 26, 1994

Status: Non-operational?

Uplink:      145.858 to 145.898 MHz CW/USB
Downlink:     29.354 to  29.394 MHz CW/USB
Beacon:       29.352 MHz (intermittent)
SSB meeting frequency:  29.380 MHz (unofficial)

John, KD6PAG reports on June 16, 2004 to WSR:
RS-15 beacon seemed to be back in the mode where it's a tone about 5
seconds off and then 5 seconds on this morning.

WSR is looking for more confirmations of RS-15 coming back.

[ANS-WSR thanks John, KD6PAG for RS-15 information]
[06202004]
=====
LO-19 LUSAT
Catalog number: 20442
Launched: January 22, 1990

Status: CW Beacon only

Uplink:             145.84 145.86 145.88 145.90 MHz FM
                    (using 1200-baud Manchester FSK)
CW downlink:        437.125 MHz
Digital downlink:   437.150 MHz SSB (RC-BPSK 1200-baud PSK)
Broadcast Callsign: LUSAT-11
BBS:                LUSAT-12o

General information and telemetry samples can be found at:
www.telecable.es/personales/ea1bcu
[05232004]
=====
FO-20 JAS-1b
Catalog number: 20480
Launch Date: February 07, 1990

Status: Non-Operational

Uplink:     145.90 to 146.00 MHz CW/LSB
Downlink:   435.80 to 435.90 MHz CW/USB
Beacon:     435.795
```

More FO-20 info can be found at:
http://www.amsat.org/amsat/sats/n7hpr/fo20.html
[08152004]
=====
KO-23 KITSAT
Catalog number: 22077
Launched: August 10, 1992

Status: Non-operational

Uplink: 145.900 MHz FM (9600-baud FSK)
Downlink: 435.170 MHz FM
Broadcast Callsign: HLO1-11
BBS: HLO1-12

Jim, AA7KC, reports that KO-23's downlink transmitter continues in a
non-operational status.
[05092004]
=====
KO-25 KITSAT
Catalog number: 22828
Launched: September 26, 1993

Status: Non-operational

Uplink: 145.980 MHz FM (9600-baud FSK)
Downlink: 436.500 MHz FM
Broadcast Callsign: HL02-11
BBS: HL02-12
[05092004]
=====
PO-34 PANSAT
Catalog number: 25520
Launched: October 30, 1998

Status: Telemetry downloads only

Uplink/downlink frequency (listed on the PanSat web site) 436.500 MHz

The satellite is not available for general uplink transmissions.

The Naval Postgraduate School developed PanSat. At the time of
launch, PanSat spread-spectrum digital transponders were to
be available to Amateur Radio operators along with software to utilize
this technology.

The satellite is still operating, however, the spread spectrum packet
radio portion never took place. The spacecraft is now beyond it's
initial 2-year mission life, but telemetry records are still being
downloaded.

For more information, visit the official PanSat web site at:
http://www.sp.nps.navy.mil/pansat/
[05092004]
=====
SO-33 SEDSAT-1
Catalog number: 25509
Launched: October 24, 1998

Status: Semi-operational

Downlink: 437.910 MHz FM (9600-baud FSK)

The satellite is not currently available for uplink transmissions and

```
the image and transponder recovery efforts have been unsuccessful.

For more information on SedSat-1 visit the satellite web site:
http://seds.uah.edu/projects/sedsat/sedsat.htm

[ANS-WSR has no further information]
[05232004]
=====
SO-35 SUNSAT
Catalog Number:     ?
Launched:February 23, 1999

STatus: Non-Operational

Downlink: Mode B Repeater: 436.291 MHz
          Mode J Digipeater: 436.250 MHz

Uplinks: Mode B Repeater: 145.825 MHz
         Mode J Digipeater: 145.825 MHz and 145.900 MHz

For more information of SUNSAT vist the satellite web site:
http://esl.ee.sun.ac.za/projects/sunsat/
[08082004]
=====
UO-36 UoSAT-12
Catalog number: 25693
Launched: April 21, 1999

Status: Unknown

Uplink:             145.960 MHz (9600-baud FSK)
Downlink:           437.025 MHz 437.400 MHz
Broadcast Callsign: UO121-11
BBS:                UO121-12

The VK5HI viewer shareware for UO-36 is available on the AMSAT-NA
web site at the following URL:
ftp://ftp.amsat.org/amsat/software/win32/display/ccddsp97-119.zip
[05092004]
=====
AO-40 AMSAT OSCAR 40
Catalog number: 26609
Launch Date: November 16, 2000

Status: Non-Operational

Uplink      V-band    145.840 -  145.990 MHz CW/LSB
            U-band    435.550 -  435.800 MHz CW/LSB
           L1-band   1269.250 - 1269.500 MHz CW/LSB
           L2-band   1268.325 - 1268.575 MHz CW/LSB
           S1-band   2400.350 - 2400.600 MHz CW/LSB
Downlink:  S2-band   2401.225 - 2401.475 MHz CW/USB
           K-band 24,048.010 - 24,048.060 MHz CW/USB
Beacon:    2401.323, 24,048.035
[05232004]
-----
SO-42  SAUDISAT-1B
Catalog number: 26549
Launched: September 26, 2000

Status: Non-Operational
 Downlink:           437.075 MHz
Broadcast Callsign: SASAT2-11
BBS:                SASAT2-12
```

Further information is available at:
http://www.amsat.org/amsat/sats/n7hpr/so42.html
[08152004]
=====
SO-41 SAUDISAT-1A
Catalog number: 26545
Launch Date: September 26, 2000

Status: Non-Operational

Uplink: 145.850 MHz
Downlink: 436.775 MHz
Broadcast Callsign: SASAT1-11
BBS: SASAT1-12

Further information is available at:
http://www.amsat.org/amsat/sats/n7hpr/so41.html
[08152004]
=====
NO-45 SAPPHIRE
Catalog number: 26932
Launch Date: September 30, 2001

Status: Non-Operational

Downlink: 437.095 MHz 1200 baud AX-25 AFSK
Uplink: 145.945 MHz UI Digipeater
Digi Callsign: KE6QMD

Everyone is welcome to use the digipeating/APRS features of Sapphire,
callsign KE6QMD, as per the user service agreement located at the
following
URL:
http://web.usna.navy.mil/~bruninga/pcsat/contract.txt
[03132005]
=====
MO-46 TIUNGSAT-1
Catalog number: 26548
Launched: September 26, 2000

Status: Operational

Uplink: 145.850 or 145.925 MHz 9600-baud FSK
Downlink: 437.325 MHz
Broadcast callsign: MYSAT3-11
BBS: MYSAT3-12

TiungSat-1 is Malaysia's first micro-satellite and in addition to
commercial land and weather imaging payloads offers FM and FSK
Amateur Radio communication.

TiungSat-1, named after the mynah bird of Malaysia, was developed as
a collaborative effort between the Malaysian government and Surrey
Satellite Technology Ltd.
[11202005]
=====
AO-49 AATiS OSCAR-49 (SAFIR-M)
Catalog number: 27605
Launch Date: December 20, 2002

Status: Semi-operational.

Uplink 435.275 1200-baud AFSK

Downlink 145.825 9600-baud FSK
(optional voice message)
Broadcast callsign: DP0AIS

AO-49 (SAFIR-M) is a German amateur radio payload onboard the small German scientific satellite "RUBIN-2".

AO-49 was built by the German amateur radio association "AATiS e.V." (German acronym for "Arbeitskreis Amateurfunk und Telekommunikation in der Schule", which means: 'working group for amateur radio and telecommunications in schools'). AO-49 is designed as a "store and broadcast" system for APRS based messages, dedicated for the use of schools in combination with the existing WX-Net and planned buoy experiments in Germany.

No transmissions detected since the 1st of February 2003! It appears AO-49 is not properly aligned to illuminate the solar panels. This should end soon. Due to its orbit, AO-49 will be in a phase without eclipses until 13Feb03.

Martin DG8UAU has written a small software program "SAFIR-M Decoder" to allow decoding of the received DATA0 frames. It is available at: http://amend.gmxhome.de in the section Aktuelles.

Details on AO-49 (SAFIR-M) can be found at:
http://amend.gmxhome.de

Information about AATiS e.V. is available at:
http://www.aatis.de
[11132005]
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/EX

SB SAT @ AMSAT <KB9MMC $ANS-359.S4
WSR 359 Part 4 12/25/2005

AMSAT NEWS SERVICE BULLETIN 359.S4 FROM AMSAT HQ
SILVER SPRING, MD, December 25,2005
TO ALL RADIO AMATEURS
BID: $ANS-359.S4

THE FOLLOWING SATELLITES ARE NOT IN ORBIT BUT ARE
PROPOSED FOR LAUNCH AT THIS TIME:

UCISAT ?O-??
Catalog number:
Proposed Launch Date: October 31, 2005

Status: Under Construction

Downlink: Submission in Progress
Uplink: Submission in Progress
Callsign: Submission in Progress
[11272005]
=====
PHASE 3E ?O-??
Catalog Number:
Proposed Launch Date: Early 2006

Status: Under Construction

For the latest project status update please visit the AMSAT-DL
P3-E web page:
http://www.amsat-dl.org/p3e/

[ANS-WSR wishes to thank William Leijenaar, PE1RAH for this week's report]
[10022005]
=====
CP1 ?o-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: N6CP
Proposed Transmit Frequency: 436.845
[03272005]
=====
CP2 ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: TBA
Proposed Transmit Frequency: 437.325
[03272005]
=====
HAUSAT1 ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: D90HP
Proposed Transmit Frequency: 437.465
[03272005]
=====
ICE Cube 1 ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: W2CXM
Proposed Transmit Frequency: 437.305
[03272005]
=====
ICE Cube 2 ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: N2VR
Proposed Transmit Frequency: 437.425
[03272005]
=====
ION ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: TBA
Proposed Transmit Frequency: 437.505
[03272005]
=====
KUTEsat ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: KC0RMW
Proposed Transmit Frequency: 437.385
[03272005]
=====
MEROPE ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: K7MSU-1

Proposed Transmit Frequency: 145.980
[03272005]
=====
nCUBE1 ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: TBA
Proposed Transmit Frequency: 437.305
2407.25
[03272005]
=====
RINCON ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: WA4CEW
Proposed Transmit Frequency: 436.870
437.345
[03272005]
=====
SACRED ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: WA4CEW
Proposed Transmit Frequency: 436.870
[03272005]
=====
SACRED ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: WA4CEW
Proposed Transmit Frequency: 436.870
[03272005]
=====
SEEDS ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: JQ1YGU
Proposed Transmit Frequency: 437.485
[03272005]
=====
Mea Huaka ?O-??
Catalog Number:
Proposed Launch Date: Mid May 2005

Proposed Callsign: TBA
Proposed Transmit Frequency: 437.405
[03272005]
=====
SUITSAT ?O-??
Catalog Number:
Proposed Release Date: December 8th, 2005

Proposed Callsign: RS0RS ?
Proposed Transmit Frequency: 145.990

This from Frank, KA3HDO:
I have recieved information that the Russian EVA that will deply SuitSat,
planned for December 8th, has been delayed to late January/Early February
2006. As we get more information, we will post it.

[ANS-WSR wishes to thank Frank Bauer, KA3HDO for this weeks report]
[11272005]
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/EX

ANS is released worldwide via the AMSAT ANS e-mail reflector and a live radiocast on the AMSAT-NA 20-meter net held each Sunday on 14.282 MHz. Pre-net operations start at 18:00 UTC, with current ANS bulletins transmitted to the eastern U.S. at 19:00 UTC and to the western U.S. at 19:30 UTC.

Information on AMSAT-NA is available at the following URL:
http://www.amsat.org

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Silver Spring, Maryland 20910-4703

Voice: 301-589-6062
888-322-6728
FAX: 301-608-3410

Currently, AMSAT-NA supports the following (free) mailing lists:

* AMSAT News Service (ANS)
* General satellite discussion (AMSAT-BB)
* Orbit data (KEPS)
* Manned space missions (SAREX)
* District of Columbia area (AMSAT-DC)
* New England area (AMSAT-NE)
* AMSAT Educational Liaison mailing list (AMSAT-EDU)
* AMSAT K-12 Educational Liaison mailing list (AMSAT-K12)

A daily digest version is available for each list.

To subscribe, or for more list information, visit the following URL:
http://www.amsat.org/amsat/listserv/menu.html

In addition to regular membership, AMSAT-NA offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT-NA Office.

This week's Weekly Satellite Report Editor is James K. Darrow, KB9MMC.

ANS is always dedicated to past ANS editor 'BJ' Arts, WT0N, and to the memory of longtime AMSAT supporters Werner Haas, DJ5KQ, Dennis Kitchen, G0FCL and John Branegan GM4IHJ.

Please send any amateur satellite news or reports to:
ans-editor{at}amsat.org
NNNN
/EX